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Intelligent Vehicle Alert System for Seize Notification

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Abstract: **Parking vehicle is major problem. One can unknowingly or by mistake park his/her vehicle in no parking area . If RTO officer , authorized person by RTO to seize the vehicle in no parking area , find your vehicle in no parking area ; it is seized by them . To find out where your is actually bought after the seizing procedure is very difficult and time consuming task. To avoid such inconvenience an alert system is designed. If RTO officer finds a vehicle in no parking area RTO officer will show identity with the help of RFID card ; and the text massage being generated by GSM to inform vehicle owner about the seize and station information where vehicle is to be placed after the whole procedure . Along with that a payment link by RTO is provided to do payment of fine by online transactions . Other than authorized users if someone tries to uplift vehicle accelerometer sensor senses the dimensions . Buzzer is provided to system to alert owner as well as people nearby to get attention towards something suspicious happening to the vehicle . Along with the buzzer a text message notification is provided to owner. As this will be a theft attempt , tracking system is provided. Vehicle will be tracked and Google map link is given to owner to know where the vehicle is bought.**

Keywords**: smart vehicle alert, smart vehicle seize.**

1. Introduction

Now-a-days vehicle is become need of every persons so lot of vehicles are increases .and parking the vehicle is major problem in our country. Parking vehicle is major problem. one can unknowingly or by mistake park his/her vehicle in no parking area. If RTO officer, authorized person by RTO to seize the vehicle in no parking area , find your vehicle in no parking area ; it is seized by them. To find out where your is actually bought after the seizing procedure is very difficult and time consuming task. To avoid such inconvenience an alert system is designed. If RTO officer finds a vehicle in no parking area RTO officer will show identity with the help of RFID card; and the text massage being generated by GSM to inform vehicle owner about the seize and station information where vehicle is to be placed after the whole procedure. Along with that a payment link by RTO is provided to do payment of fine by online transactions. Other than authorized users if someone tries to uplift vehicle accelerometer sensor senses the dimensions .

2. Related work

A. Problem statement

To develop intelligent alert system for seized vehicles by R.T.O officers using integrated circuits , microcontroller RFID Reader and also develop android app.

1) Goals

- Reduction of inconvenience after seizes
- Unauthenticated user alert notification and authenticated seize
- Tracking of vehicle
- Go cashless
- Low manufacturing cost

2) Objectives

- Objective of this invention the system for providing alert message to the user after seize the vehicle.
- Another objective of this invention is the system provide payment link module configured to send a payment link in the seize SMS to the user to pay the belonging fine for cashless transactions.
- We provide Acceleration sensor and Buzzer module configured to sense the unauthorized access to the vehicle connected to the GSM module to notify the owner.
- We provide location sensor module configured to track the exact location of the vehicle.

B. Motivation

As India is developing country and population of India is increases day by day so in this fast schedule vehicles become a major need of each person, because of increased population and vehicles and lack of area in city for parking. One can unknowingly or by mistake park his/her vehicle in no parking area . If RTO officer , authorized person by RTO to seize the vehicle in no parking area , find your vehicle in no parking area ; it is seized by them . To find out where your is actually bought after the seizing procedure is very difficult and time consuming task . To avoid such inconvenience an alert system is designed.

3. Literature survey

Smart Traffic Light Control System, B ilal Ghazal, Khaled

EIKhatib, Khaled Chahine, Mohamad Kherfan, Traffic light control systems are widely used to monitor and control the flow of automobiles through the junction of many roads. They aim to realize smooth motion of cars in the transportation routes. However, the synchronization of multiple traffic light systems at adjacent intersections is a com plicated problem given the various parameters involved. Conventional systems do not handle variable flows approaching the junctions. In addition, the mutual interference between adjacent traffic light systems, the disparity of cars flow with time, the accidents, the passage of emergency vehicles, and the pedestrian crossing are not implemented in the existing traffic system. This leads to traffic jam and congestion. We propose a system based on PIC microcontroller that evaluates the traffic density using IR sensors and accomplishes dynamic timing slots with different levels. Moreover, a portable controller device is designed to solve the problem of emergency vehicles stuck in the overcrowded roads.

Demo Paper: Smartphone-Based Automatic Stolen Vehicle Detection System, Yi-Chen Shih, Yu-Ming Liang, And Sei-Wang Chen, Stolen vehicle detection has become an important task for police officers in many countries. In order to make investigating and seizing the stolen vehicles more convenient and efficient, we propose a smartphone-based automatic stolen vehicle detection system. The proposed system is developed based on Model-View-Controller (MVC) design pattern by combining a cell phone camera, wireless communication, license plate recognition, fault tolerant retrieval techniques as well as GPS positioning technology. A live demo shows the feasibility of the proposed system.

Smart alert System for vehicles, R.Ramkumar , S. Dinesh , S.NAVEEN kumar. G Prathipa, Traffic accidents are one of the main causes of sudden death worldwide. Inadequate driver response toz changing road and traffic conditions leads to a higher probability of road accidents. With the rise of the concept of Smart Cities, safety and security are two important issues that need to be addressed. In this paper, we propose an Intelligent Traffic Alert System (iTAS) that warns drivers of potential dangers on the road using audio and visual alerts. The iTAS consists of transmitter units installed on the side of the road that broadcast vital information such as the speed limit, road conditions, and unexpected traffic situations to drivers in real-time over the commercial FM radio frequency band. On the receiver side, the system uses the radio already present in the vehicle to deliver audio alerts that help keep drivers informed on road and traffic conditions. The installation of an optional receiver unit inside the vehicle makes it possible to display the alerts on a LCD screen in the form of visual warning symbols. A lab prototype of the proposed system was built using off-theshelf commercial components. The results acquired from testing the prototype were good enough to validate our approach to the design.

Smart Vehicle Accident Detection and Alarming System Using a Smartphone, Adnan Bin Faiz, Ahmed Imteaj, Mahfuzulhoq Chowdhury Vehicle accident is the paramount thread for the people's life which causes a serious wound or even dead. The automotive companies have made lots of progress in alleviating this thread, but still the probability of detrimental effect due to an accident is not reduced. Infringement of spFieed is one of the elementary reasons for a vehicle accident. Therewithal, external pressure and change of tilt angle with road surface blameworthy for this mishap. As soon as the emergency service could divulge about an accident, the more the effect would be mitigated. For this purpose, we developed an Android based application that detects an accidental situation and sends emergency alert message to the nearest police station and health care center. This application is integrated with an external pressure sensor to extract the outward force of the vehicle body. It measures speed and change of tilt angle with GPS and accelerometer sensors respectively on Android phone. By checking conditions, this application also capable of reducing the rate of false alarm.

4. System design

In this system architecture LPC2148 microcontroller is used to processing and generate outcome and send to end user in form of text massage with GSM module. MAX232 is integrated circuit it is used for to convert CMOS outcome from microcontroller to TTL for GSM system. Another input to system is vibration to vehicle. Accelerometer sensor is used to sense x, y ,z direction and sensed information send to microcontroller and further to the GSM module to alert end user by text message .overall system is working on power supply having 12v for system.

1) Algorithm

- Start
- Open Application
- Check vehicle is in no-parking area
- If vehicle is in no-parking area go to step 7
- Massage to owner with payment link
- If owner is not respond
- Uplift the vehicle
- Stop

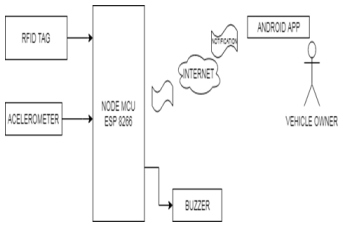

Fig. 1. Block diagram

2) Components used

- RFID tag
- Accelerometer
- RFID Reader
- NODE MCU

- Buzzer
- Android app

5. Other specifications

1) Advantages

- Realtime vehicle seize system
- Enables RTO
- Notification to the vehicle owner
- Reduces no parking area crowd
- Suspicious activity sensed with accelerometer

2) Applications

- Police
- Road Transport officers
- Housing Societies

6. Conclusion

Invention proposed a vehicle alert system. The vehicle alert system reduces inconvenience of finding particular police station after the seize. main officer can see the vehicles in no parking area then this officer inform to RTO person to seize the vehicle and RTO person scan the vehicle plate number in their Android App and get detail of vehicle owner and he also show RFID tag to the RFID Reader then device which is in vehicle give the access to RTO person to uplift the vehicle .RTO person send the message to vehicle owner of pay the fine and remove the vehicle from no parking area otherwise vehicle will seize and uplift and if in case of user is nearby and able to come quickly he can send reply to the massage . it will display on LCD screen placed on the vehicle so that RTO officer can wait for owner. It will further reduce procedure of seize. RTO alert message consist of payment link so that owner can pay fine by online transaction. Other than authorized users if someone tries to uplift vehicle, along with the buzzer a text message notification is provided to owner. Buzzer is provided to system to alert owner as well as people nearby to get attention towards something suspicious happening to the vehicle. In case of vehicle tracking is available.

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